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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,345

11/21/2003

Thomas Fuehrer

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EXAMINER

MUI, GARY

ART UNIT

PAPER NUMBER

2416

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,345	<b>Applicant(s)</b> FUEHRER, THOMAS	
	<b>Examiner</b> GARY MUI	<b>Art Unit</b> 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 24, 2009 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 4, 5, 11, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl et al. (US 2001/0021196 A1; hereinafter "Weigl") in view of Suzuki et al. (US 2002/0067763 A1; hereinafter "Suzuki").

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For claim 1, Weigl teaches transmitting messages in transmission time slots at a preselected transmission rate, that a message provided for the transmission time slot is transmitted repeatedly within the transmission time slot (see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach dynamically changing, during transmission of messages, the transmission rate for at least one time slot. Suzuki from the same field of endeavor teaches adjusting a transmission rate every time slot (see paragraph 0010). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the rate on a per time slot basis as taught by Suzuki into Weigl. The motivation for doing this is to allow for an efficient system by allow multiple types to coexist.

For claim 11, Weigl teaches a first means for transmitting messages in transmission time slots at a preselected transmission rate; and a message provided for the transmission time slot is transmitted repeatedly within the transmission time slot (see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach a second means for dynamically changing, during transmission of message, a transmission rate of a transmission time slot. Suzuki from the same field of endeavor teaches adjusting a transmission rate every time slot (see paragraph 0010). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the rate on a per time slot basis as taught by Suzuki into Weigl. The motivation for doing this is to allow for an efficient system by allow multiple types to coexist.

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For claims 4 and 12, Weigl teaches unambiguously allocating the messages to transmission time slots (see paragraph 0007).

For claim 5, Weigl and Suzuki teach all of the claimed subject matter with the exception of multiplying the transmission rate within a transmission time slot by an integral factor. However, it would have been obvious to one skilled in the art time of the invention to multiply the transmission rate by an integer as a matter of design choice. The motivation for doing this is to increase the scalability of the system.

For claim 14, Weigl teaches a first means for transmitting messages in transmission time slots at a preselected transmission rate; and transmitted repeatedly within the transmission time slot (see paragraph 0007; reference messages are transmitted and the message is repeatedly transmitted at a specific time interval and the message is controlled by a function of time). Weigl fails to explicitly teach a second means for dynamically changing during transmission of messages, a transmission rate of a transmission time slot. Suzuki from the same field of endeavor teaches adjusting a transmission rate every time slot (see paragraph 0010). Therefore, it would have been obvious to one skilled in the art at the time of the invention was made to change the rate on a per time slot basis as taught by Suzuki into Weigl. The motivation for doing this is to allow for an efficient system by allow multiple types to coexist.

***Claim Rejections - 35 USC § 103***

5. Claims 2, 3, 8 – 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl and Suzuki as applied to claims 1 and 11 above, and further in view of Kage (US 4,709,376).

For claim 2, Weigl and Suzuki teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns  $A_1, A_2, \dots, A_M$  each representative of the same information and, by majority, decides a single pattern  $D = d^1 d^2 \dots d^k$ . For example,  $d^k$  is the result of checking  $a_1^k, a_1^k, \dots, a_m^k$  for majority; if the number of ONEs is greater than that of ZEROs,  $d_k = \text{ONE}$  (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to processed the received signals as taught by Kage into the bus system of Weigl and Suzuki. The motivation for doing this is to more reliable bus system.

For claim 8, Weigl and Suzuki teaches all of the claimed subject matter with the exception the messages contain an identification and data, the identification identifying data content, and the messages transmitted repeatedly within a transmission time slot are identical at least with regard to the identification and the data. Kage from the same field of endeavor teaches there is provided an apparatus for processing a digital received signal in which the same information appears repeatedly (see column 1 lines 52 – 55, the same data is transmitted).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to sending identical messages a taught by Kage into Weigl and Suzuki bus system. The motivation for doing this is to have lower error rates.

For claims 3 and 10, Weigl and Suzuki teaches all of the claimed subject matter with the exception that N of the messages transmitted repeatedly within a transmission time slot are compared with one another, and, within the scope of an M out of N deviation with regard to at least parts of the messages, at least one message is detected as being faulty, the messages detected as faulty being rejected. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns  $A_1, A_2, \dots, A_M$  each representative of the same information and, by majority, decides a single pattern  $D = d^1 d^2 \dots d^k$ . For example,  $d^k$  is the result of checking  $a_1^k, a_1^k, \dots, a_m^k$  for majority; if the number of ONEs is greater than that of ZEROs,  $d_k = \text{ONE}$  (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to processed the received signals as taught by Kage into the bus system of Weigl. Also, neither Weigl and Kage teaches that M and N are integers, and wherein  $N > 2$  and  $(N/2) < M < N$ . However, it would have been obvious to one skilled in the art at the time of the invention was made to M and N be integers within certain ranges. The motivation for doing this is to more reliable bus system.

For claim 9, Weigl and Suzuki teaches all of the claimed subject matter with the exception of comparing at least two of the messages transmitted repeatedly within a transmission time slot with one another; and detecting a fault in the event of deviations with regard to at least one of

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the identification and the data. Kage from the same field of endeavor teaches that the data stored in the store are read out and applied to a majority circuit which then checks the bits of the patterns  $A_1, A_2, \dots, A_M$  each representative of the same information and, by majority, decides a single pattern  $D = d^1 d^2 \dots d^k$ . For example,  $d^k$  is the result of checking  $a_1^k, a_1^k, \dots, a_m^k$  for majority; if the number of ONES is greater than that of ZEROS,  $d_k = \text{ONE}$  (see column 4 lines 28 – 35, the bits are compared with each other and determined to find the correct pattern). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into the bus system of Weigl and Suzuki. The motivation for doing this is to more reliable bus system.

For claim 13, Weigl and Suzuki teaches all of the claimed subject matter with the exception of a memory device for storing the messages transmitted repeatedly within a particular transmission time slot in a chronological order of their transmission. Kage from the same field of endeavor teaches a store for storing the M information patterns which are received by the information pattern receive circuit (see column 1 lines 60 – 62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to process the received signals as taught by Kage into the bus system of Weigl and Suzuki. The motivation for doing this is to have a more efficient system.

### ***Claim Rejections - 35 USC § 103***

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weigl and Suzuki as applied to claim 1 above, and further in view of Strong (US 2002/0126691).

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For claim 6 and 7, Weigl and Suzuki teaches all of the claimed subject matter with the exception of structuring the message in such a way that a beginning and an end of the message are unambiguously detectable and that each of the messages has a first identifier for the beginning of the message and a second identifier for the end of the message. Strong from the same field of endeavor teaches a data frame has a start of frame and an end of frame (see paragraph 0040 lines 1 – 5 and paragraph 0051 lines 1 – 4, see figure 4 Start of frame and End of frame). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to structure the messages a taught by Strong to be used in Weigl and Suzuki bus system. The motivation for doing this is to have a more accurate system.

### ***Conclusion***

7. **Examiner's Note:** Examiner has cited particular paragraphs or columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GARY MUI whose telephone number is (571)270-1420. The examiner can normally be reached on Mon. - Thurs. 9 - 3 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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09/14/2009